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EMPLOYMENT

Lawrence Berkeley National Laboratory, Berkeley, California 1990 - Present

Price Associates, Berkeley, California 1989 - 1990

MHB Technical Associates, San Jose, California 1983 -1989

PROFESSIONAL EXPERIENCE

- Principal investigator, China Sustainable Energy Program project on industrial energy efficiency voluntary agreements and tax and fiscal policy projects in China
- Principal investigator, California Energy Commission project on development of an energy balance for the State of California.
- Principal investigator, California Energy Commission project on optimization of product lifecycle greenhouse gas emissions from products produced in California.
- Principal investigator, California Energy Commission project related to technical analysis in support of the California Climate Action Registry.
- Lead author, Intergovernmental Panel on Climate Change Second Assessment Report, Technical Paper on Technologies, Policies and Measures for Mitigating Climate Change, Special Report on Emissions Scenarios, and Third Assessment Report.
- Scientist, U.S. Environmental Protection Agency projects related to development of multiproject (standardized) baselines for evaluation of greenhouse gas mitigation projects in the electricity and industrial sectors, benchmarking of energy-intensive industrial sectors, analysis of the energy-efficiency and greenhouse gas mitigation potential of selected industrial sectors, and quantification of program-related greenhouse gas emissions reductions.
- Scientist, U.S. Department of Energy project related to the assessment of international experience in industrial sector energy efficiency policies and programs.
- Scientist, U.S. Agency for International Development project related to development of standardized baselines for evaluation of greenhouse gas mitigation projects in the electricity and industrial sectors in Central America.

PROFESSIONAL SERVICE

Co-Chair, 2003 American Council for an Energy-Efficient Economy's Summer Study on Energy Efficiency in Industry

Advisor for two students in the Master in Public Policy Program, John F. Kennedy School of Government, Harvard University

Reviewer for Energy, The International Journal, Energy Policy, Journal of Industrial Ecology, Environmental Science & Technology, and the ACEEE 2003 Summer Study on Energy Efficiency in Industry

Host and advisor for international guests in the International Energy Studies Group at Lawrence Berkeley National Laboratory

EDUCATION

University of Wisconsin - Madison, Institute For Environmental Studies Master of Science in Land Resources, May 1982 Phi Kappa Phi Honor Society

University of Wisconsin - MadisonBachelor of Arts in Geography, May 1980
Graduation with Distinction

PUBLICATIONS

Levine, M.D., Sathaye, J., Price, L., Sinton, J., de la Rue du Can, S., Zhou, N., Worrell, E., in press. "Disaggregation of Greenhouse Gas Emissions Scenarios: Matching End-Use Technological Information to Projected Trends," *International Journal of Energy Technology and Policy*.

Price, L., Galitsky, C., and Worrell, E., forthcoming. "End - Use Technologies, Main Drivers, and Patterns of Future Demand: Industry," *Future Technologies for a Sustainable Electricity System*. Cambridge, UK: Cambridge University Press.

Worrell, E. and Price, L., in press. "An Integrated Benchmarking and Energy Savings Tool for the Iron and Steel Industry," *International Journal of Green Energy*.

Price, L., de la Rue du Can, S., Sinton, J., and Worrell, E., forthcoming. *Sectoral Trends in Global Energy Use and Greenhouse Gas Emissions*. Berkeley, CA: Lawrence Berkeley National Laboratory (LBNL-56144).

Price, L., Galitsky, C., Sinton, J., Worrell, E., Graus, W., 2005. *Tax and Fiscal Policies for Promotion of Industrial Energy Efficiency: A Survey of International Experience*. Berkeley, CA: Lawrence Berkeley National Laboratory (LBNL-58128).

- Price, L., 2005. "Voluntary Agreements for Energy Efficiency or Greenhouse Gas Emissions Reduction in Industry: An Assessment of Programs Around the World," *Proceedings of the 2005 ACEEE Summer Study on Energy Efficiency in Industry*. Washington, DC: American Council for An Energy-Efficient Economy.
- Coito, F., Powell, F., Worrell, E., Price, L., and Friedmann, R., 2005. "Case Study of the California Cement Industry," *Proceedings of the 2005 ACEEE Summer Study on Energy Efficiency in Industry*. Washington, DC: American Council for An Energy-Efficient Economy.
- Coito, F., Worrell, E., Price, L., Masanet, E., Friedmann, R., and Rufo, M., 2005. "California Industrial Energy Efficiency Potential," *Proceedings of the 2005 ACEEE Summer Study on Energy Efficiency in Industry*. Washington, DC: American Council for An Energy-Efficient Economy.
- Price, L. and Sinton, J., 2005. Assessment of the Chinese Cement Industry: Status and Opportunities in Relation to the Stockholm Convention on Persistent Organic Pollutants. Berkeley, CA: Lawrence Berkeley National Laboratory.
- Sathaye, J., Price, L., de la Rue du Can, S., and Fridley, D., 2005. *Assessment of Energy Use and Energy Savings Potential in Selected Industrial Sectors in India*. Berkeley, CA: Lawrence Berkeley National Laboratory (LBNL-57293).
- Masanet, E., Price, L., de la Rue du Can, S., Brown, R., Worrell, E., 2005. *Optimization of Product Life Cycles to Reduce Greenhouse Gas Emissions in California*. Sacramento, CA: California Energy Commission (500-2005-110-F).
- Murtishaw, S., Price, L, de la Rue du Can, S., Masanet, E., Worrell, E., and Sathaye, J., 2005. *Development of Energy Balances for the State of California*. Sacramento, CA: California Energy Commission (500-2005-068).
- Ezzati, M., Holloway, T., Kammen, D.M., and Price, L., 2004. "Energy, Sustainable Development, and Public Health," *Annual Review of Energy and Resources* (LBNL-52780).
- Sathaye, J., Murtishaw, S., Price, L., Lefranc, M., Roy, J., Winkler, H., and Spalding-Fecher, R., 2004. "Multiproject Baselines for Evaluation of Electric Power Projects," *Energy Policy* (LBNL-51917)
- Price, L., Bartholomew, E., and Mulholland, D., 2004. "Taking Credit for GHG Emissions Reduction Activities of the EPA's State and Local Capacity Building Branch," *Proceedings of the 2004 ACEEE Summer Study on Energy Efficiency in Buildings*. Washington, DC: American Council for an Energy-Efficient Economy (LBNL-55920).
- Price, L., Sinton, J., Worrell, E., Wang, X., and Zhang, H., 2004. "Development of Energy Conservation and Pollution Reduction Cooperative Agreements as a Means for Environmental Reform in the Industrial Sector," Conference on *Setting the Agenda for China's Environmental Reform: Past, Present and Future Trends*, convened by Tsinghua University, Beijing and Wageningen University, The Netherlands, Beijing June 5-6, 2004 (LBNL-54875).

- Worrell, E. and Price, L, 2004. "An Integrated Benchmarking and Energy Savings Tool for the Iron and Steel Industry," *SCANMET II:* 2nd International Conference on Process Development in Iron and Steelmaking, 6-9 June 2004 (LBNL-54877).
- Galitsky, C., Price, L., and Worrell, E., 2004. Energy Efficiency Programs and Policies in the Industrial Sector in Industrialized Countries. Berkeley, CA: Lawrence Berkeley National Laboratory (LBNL-54068).
- Price, L., and Bartholomew, E., 2004. Assessment of State and Local Greenhouse Gas Emissions Reductions Related to Programs Funded by the State and Local Capacity Building Branch, Global Programs Division, Office of Air and Radiation, U.S. Environmental Protection Agency. Berkeley, CA: Lawrence Berkeley National Laboratory (LBNL-54712).
- Worrell, E., Price, L., and Galitsky, C., 2004. "Emerging Energy-Efficient Technologies in Industry: Case Study of Selected Technologies," Technical Appendix Chapter 3: *Improving Energy Efficiency* of National Commission on Energy Policy report *Ending the Energy Stalemate: A Bipartisan Strategy to Meet America's Energy Challenges* (http://www.energycommission.org/) (LBNL-54828)
- Price, L., Worrell, E., and Sinton, J., 2004. "Designing Energy Conservation Voluntary Agreements for the Industrial Sector in China: Experience from a Pilot Project with Two Steel Mills in Shandong Province," *The Handbook of Environmental Voluntary Agreements*, E. Croci, ed., Kluwer Academic Publishers (LBNL-54879).
- Price, L, Worrell, E., Sinton, J., and Jiang, Y., 2003. "Voluntary Agreements for Increasing Energy-Efficiency in Industry: Case Study of a Pilot Project with the Steel Industry in Shandong Province, China," *Proceedings of the 2003 ACEEE Summer Study on Energy Efficiency in Industry*. Washington, DC: American Council for an Energy-Efficient Economy (LBNL-52715).
- Price, L., Worrell, E., and Sinton, J., 2003. "Voluntary Agreements in the Industrial Sector in China," *Proceedings of the Earth Technologies Forum*, April 22-24, 2003, Washington DC (LBNL-52714).
- Price, L., Murtishaw, S., Worrell, E., 2003. Evaluation of Metrics and Baselines for Tracking Greenhouse Gas Emissions Trends: Recommendations for the California Climate Action Registry. Berkeley, CA: Lawrence Berkeley National Laboratory (LBNL-53027).
- Price, L. Jiang, Y., Worrell, E., Du, W., Sinton, J.E, 2003. Development of an Energy Conservation Voluntary Agreement Pilot Project in the Steel Sector in Shandong Province: Report to the State Economic and Trade Commission, People's Republic of China. Berkeley, CA: Lawrence Berkeley National Laboratory (LBNL-51608).
- Price, L. and Levine, M.D., 2002. "Sustainable Production and Consumption of Energy: Developments Since the 1992 Rio Summit," *Environmental Law Reporter* 32 (August) (LBNL-50961).
- Price, L. and Levine, M.D., 2002. "Production and Consumption of Energy," Chapter in: *Stumbling Toward Sustainability*. Washington, DC: Environmental Law Institute (LBNL-50147).

- Price, L., Sinton, J., Worrell, E., Phylipsen, D., Hu, X., and Li, J., 2002. "Energy Use and Carbon Dioxide Emissions from Steel Production in China," *Energy, The International Journal* 27(2002): 429-446 (LBNL-47205).
- Worrell, E., Martin, N., Price, L., Ruth, M., Elliott, N., Shipley, A. and Thorne, J., 2002. "Emerging Energy Efficient Technologies for Industry" *Energy Engineering Journal* No. 2 Vol. 99 pp.36-55 (LBNL-47907).
- Roy, J., Das, S., Sathaye, J., and Price, L., 2002. "Estimating Baselines for CDM: Case of Eastern Regional Power Grid in India," *Environmental Economics and Policy Studies* 5: 121-134.
- Ozawa, L., Sheinbaum, C., Martin, N., Worrell, E., and Price, L., 2002. "Energy Use and CO2 Emissions in Mexico's Iron and Steel Industry," *Energy, The International Journal* 27, 2002: 225-239 (LBNL-49133).
- Price, L., Marnay, C., Sathaye, J., Murtishaw, S., Fisher, D., Phadke, A., and Franco, G., 2002. "The California Climate Action Registry: Development of Methodologies for Calculating Greenhouse Gas Emissions from Electricity Generation," *ACEEE Summer Study on Energy Efficiency in Buildings*. Washington, DC: American Council for an Energy-Efficient Economy.
- Price, L., Marnay, C., Sathaye, J., Murtishaw, S., Fisher, D., Phadke, A., and Franco, G., 2002. "Development of Methodologies for Calculating Greenhouse Gas Emissions from Electricity Generation for the California Climate Action Registry," 11th International Emission Inventory Conference, Atlanta, GA, April 15-18, 2002 (LBNL-50250).
- Marnay, C., Fisher, D., Murtishaw, S., Phadke, A., Price, L., and Sathaye, J., 2002. *Estimating Carbon Dioxide Emissions Factors for the California Electric Power Sector*. Berkeley, CA: Lawrence Berkeley National Laboratory (LBNL-49945).
- Worrell, E., Price, L, Martin, N., Hendricks, C., and Ozawa Meida, L., 2001. "Carbon Dioxide Emissions from the Global Cement Industry," *Annual Review of Energy and Environment* 26: 303-29 (LBNL-49097).
- Worrell, E., Price, L., and Ruth, M., 2001. "Policy Modeling for Energy Efficiency Improvement in US Industry," *Annual Review of Energy and Environment* 26: 117-43 (LBNL-49096)
- Winkler, H., Spalding-Fecher, R., Sathaye, J., and Price, L., 2001. "Multi-Project Baselines for Potential Clean Development Mechanism Projects in the Electricity Sector in South Africa," *Journal of Energy in Southern Africa* 12 (4): 449-457 (LBNL-50948).
- Worrell, E. and Price, L., 2001. "Policy Scenarios for Energy Efficiency Improvement in Industry," *Energy Policy* 29 (2001): 1223-1241 (LBNL-49138).
- Worrell, E., Martin, N., and Price, L., 2001. "Energy Efficiency and Carbon Dioxide Emissions Reduction Opportunities in the U.S. Iron and Steel Industry," *Energy, The International Journal* 26, 2001: 513-536: (LBNL-47910).

Moomaw, W. R., J. R. Moreira, K. Blok, D. Greene, K. Gregory, T. Jaszay, T. Kashiwagi, M. Levine, M. MacFarland, N. S. Prasad, L. Price, H. Rogner, R. Sims, F. Zhou, E. Alsema, H. Audus, R. K. Bose, G. M. Jannuzzi, A. Kollmuss, L. Changsheng, E. Mills, K. Minato, S. Plotkin, A. Shafer, A. C. Walter, R. Ybema, J. de Beer, D. Victor, R. Pichs-Madruga, H. Ishitani. 2001. "Technological and Economic Potential of Greenhouse Gas Emissions Reduction." Chapter 3 in *Climate Change 2001: Mitigation*. Intergovernmental Panel on Climate Change, United Nations and World Meteorological Organization, Geneva.

Banuri, T., Barker, T., Bashmakov, I., Blok, K., Bouille, D., Christ, R., Davidson, O., Edmunds, J., Gregory, K., Grubb, M., Halsnaes, Heller, T., Hourcade, J-C., K., Jepma, C., Kauppi, P., Markandya, A., Metz, B., Moomaw, W., Moreira, J.R., Morita, Nakicenovic, N., Price, L., Richels, R., Robinson, J., Rogner, H.H., Sathaye, J., Sedjo, R., Shukla, P., Srivastava, L., Swart, R., Toth, F., Weyant, J., 2001. "Summary for Policymakers" of *Climate Change* 2001: *Mitigation*. Intergovernmental Panel on Climate Change, United Nations and World Meteorological Organization, Geneva. Working Group 3.

Banuri, T., Barker, T., Bashmakov, I., Blok, K., Christensen, J., Davidson, O., Grubb, M., Halsnaes, K., Jepma, C., Jochem, E., Kauppi, P., Krankina, O., Krupnick, A., Kuijpers, L., Kverndokk, S., Markandya, A., Metz, B., Moomaw, W., Moreira, J.R., Morita, T., Pan, J., Price, L., Richels, R., Robinson, J., Sathaye, J., Swart, R., Tanaka, K., Taniguchi, T., Toth, F., Taylor, T, Weyant, J., 2001. "Technical Summary" of *Climate Change 2001: Mitigation*. Intergovernmental Panel on Climate Change, United Nations and World Meteorological Organization, Geneva. Working Group 3.

Price, L., Worrell, E., Sinton, J., and Jiang, Y., 2001. "Industrial Energy Efficiency Policy in China," *Proceedings of the ACEEE Summer Study on Energy Efficiency in Industry*. Washington, DC: American Council for an Energy-Efficient Economy (LBNL-50452).

Ruth, M., Worrell, E., and Price, L., 2001. "A Process-Step Benchmarking Approach to Energy Use at Industrial Facilities: Examples from the Iron and Steel and Cement Industries," *Proceedings of the ACEEE Summer Study on Energy Efficiency in Industry*. Washington, DC: American Council for an Energy-Efficient Economy (LBNL-50444).

Martin, N., Worrell, E., and Price, L, 2001. "Energy Efficiency Opportunities for the U.S. Cement Industry," *Proceedings of the ACEEE Summer Study on Energy Efficiency in Industry*. Washington, DC: American Council for an Energy-Efficient Economy (LBNL-47322).

Worrell, E., Martin, N., Price, L., Ruth, M., Elliott, N., Shipley, A., and Thorne, J., "Emerging Energy-Efficient Technologies for Industry," *Proceedings of the ACEEE Summer Study on Energy Efficiency in Industry*. Washington, DC: American Council for an Energy-Efficient Economy (LBNL-47907)

Worrell, E. and Price, L., 2001. "Potential Impact of Energy Efficiency Policies in U.S. Industry: Results from the Clean Energy Futures Study," *Proceedings of the 2001 ACEEE Summer Study on Energy Efficiency in Industry.* Washington, DC: American Council for an Energy-Efficient Economy (LBNL-49083).

Worrell, E. and Price, L., 2001. "Barriers and Opportunities: A Review of Selected Successful Energy-Efficiency Programs," *Proceedings 2001 Industrial Energy Technology Conference*, Houston, TX, May 1-4, 2001 (LBNL-47908).

Worrell, E., Martin, N., Price, L., Ruth, M., Elliott, N., Shipley, A. and Thorne, J., 2001. "Emerging Energy-Efficient Technologies for Industry," *Proceedings* 23rd National Industrial Energy Technology Conference, Houston, TX, May 1-4, 2001 (LBNL-47907).

Worrell, E., Martin, N., Anglani, N., Einstein, D., Khrushch, M., and Price, L., 2001. "Opportunities to Improve Energy Efficiency in the U.S. Pulp and Paper Industry," *Proceedings Paper Machine Technology*, February 7-8, 2001, Lanaken, Belgium.

Sathaye, J, Price, L., Worrell, E., Ruth, M., Schaeffer, R., Costa, M., Wang, Y., Roy, J., Das, S., Winkler, H., Spalding-Fetcher, R., Afrane-Okese, Y, and Davidson, O., 2001. *Multi-Project Baselines for Evaluation of Industrial Energy-Efficiency and Electric Power Projects*. Berkeley, CA: Lawrence Berkeley National Laboratory (LBNL-48242).

Price, L., Phylipsen, D., and Worrell, E., 2001. *Energy Use and Carbon Dioxide Emissions in the Steel Sector in Key Developing Countries*. Berkeley, CA: Lawrence Berkeley National Laboratory (LBNL-46987).

Worrell, E., Martin, N., and Price, L., 2000. "Potentials for Energy Efficiency Improvement in the U.S. Cement Industry," *Energy, The International Journal* 25, 2000: 1189-1214) (LBNL-47322).

Martin, N., Worrell, E., Ruth, M., Price, L., Elliott, R.N., Shipley, A.M., and Thorpe, J., 2000. *Emerging Energy-Efficient Industrial Technologies*. Berkeley, CA: Lawrence Berkeley National Laboratory (LBNL-46990) and Washington, DC: American Council for an Energy-Efficient Economy.

Interlaboratory Working Group on Energy-Efficiency and Clean Energy Technologies, 2000. *Scenarios for a Clean Energy Future*. Oak Ridge, TN: Oak Ridge National Laboratory and Berkeley, CA: Lawrence Berkeley National Laboratory.

Nakicenovic, N., Alcamo, J., Davis, G., de Vries, B., Fenhann, J., Gaffin, S., Gregory, K., Grubler, A., Jung, T.Y., Kram, T., La Rovere, E.L., Michaelis, L., Mori, S., Morita, T., Pepper, W., Pitcher, H., Price, L., Riahi, K., Roehrl, A., Rogner, H-H., Sankovski, A., Schlesinger, M., Shukla, P., Smith, S., Swart, R., van Rooijen, S., Victor, N., and Zhou, D., 2000. *Special Report on Emissions Scenarios:* Report of Working Group III of the Intergovernmental Panel on Climate Change. Cambridge University Press.

Worrell, E., Martin, N., Price, L., Ruth, M., Elliott, N., Shipley, A. and Thorne, J. 2000. "Emerging Energy-Efficient Technologies for Industry," *Proceedings Earth Technologies Forum*, October 30th-November 1st, 2000, Washington, DC.

Price, L., Worrell, E., Martin, N., Lehman, B., and Sinton, J., 2000. "China's Industrial Sector in an International Context," *Proceedings of the Workshop on Learning from International Best Practice Energy Policies in the Industrial Sector*, May 22-23, 2000, Beijing. (LBNL-46273).

Price, L. and Worrell, E., 2000. "International Industrial Sector Energy Efficiency Policies," *Proceedings of the Workshop on Learning from International Best Practice Energy Policies in the Industrial Sector*, May 22-23, 2000, Beijing. (LBNL-46274).

Ruth, M., Worrell, E., and Price, L, 2000. Evaluating Clean Development Mechanism Projects in the Cement Industry Using a Process-Step Benchmarking Approach. Berkeley, CA: Lawrence Berkeley National Laboratory (LBNL-45346).

Martin, N., Anglani, N., Einstein, D., Khrushch, M., Worrell, E., Price, L., 2000. *Opportunities to Improve Energy Efficiency and Reduce Greenhouse Gas Emissions in the U.S. Pulp and Paper Industry*. Berkeley, CA: Lawrence Berkeley National Laboratory (LBNL-46141).

Hendriks, C.A., Worrell, E., Price, L., Martin, N., Ozawa Meida, L., 1999. *Greenhouse Gases from Cement Production*. Prepared for the IEA Greenhouse Gas R&D Programme. Utrecht, The Netherlands: ECOFYS.

Price, L., Worrell, E., and Phylipsen, D., 1999. "Energy Use and Carbon Dioxide Emission in Energy-Intensive Industries in Key Developing Countries," *Proceedings of the Earth Technologies Forum*, Washington DC, September 27-29, 1999.

Phylipsen, D., Price, L., Worrell, E., Blok K., 1999. "Industrial Energy Efficiency in Light of Climate Change Negotiations: Comparing Major Developing Countries and the U.S.," *Proceedings of the 1999 ACEEE Summer Study on Energy Efficiency in Industry*, Washington, DC: American Council for an Energy-Efficient Economy.

Khrushch, M., Worrell, E., Price, L., Martin, N., and Einstein, D., 1999. "Carbon Emissions Reduction Potential in the U.S. Chemicals and Pulp and Paper Industries by Applying CHP Technologies," *Proceedings of the 1999 ACEEE Summer Study on Energy Efficiency in Industry*, Washington, DC: American Council for an Energy-Efficient Economy.

Price, L., Worrell, E., and Khrushch, M., 1999. Sectoral Trends and Driving Forces of Global Energy Use and Greenhouse Gas Emissions: Focus on Industry and Buildings. Berkeley, CA: Lawrence Berkeley National Laboratory (LBNL 42817).

Martin, N., Worrell, E., and Price, L., 1999. *Energy Efficiency and Carbon Dioxide Emissions Reduction Opportunities in the U.S. Cement Industry*, Berkeley, CA: Lawrence Berkeley National Laboratory (LBNL-44182).

Worrell, E., Martin, N., Price, L., 1999, "Energy Efficiency Opportunities in Electric Arc Steelmaking," *Iron and Steelmaker*, January.

Worrell, E., Martin, N., Price, L., 1999. Energy Efficiency and Carbon Dioxide Emissions Reduction Opportunities in the U.S. Iron and Steel Sector, Berkeley, CA: Lawrence Berkeley National Laboratory (LBNL-41724).

Price, L., Michaelis, L., Worrell, E., and Khrushch, M., 1998. "Sectoral Trends and Driving Forces of Global Energy Use and Greenhouse Gas Emissions," *Mitigation and Adaptation Strategies for Global Change*, 3:263-319, 1998.

Koomey, J.G., Martin, N.C., Brown, M., Price, L.K., and Levine, M.D., 1998. "Costs of Reducing Carbon Emissions: U.S. Building Sector Scenarios," *Energy Policy*, 26 (5).

Ozawa, L., Martin, N., Worrell, E., Price, L., and Sheinbaum, C., 1998. "New Trends in Industrial Energy Efficiency in Mexico: Iron and Steel Industry," *Proceedings of the International Association for Energy Economics, Volume* 22.

Worrell, E., Martin, N., and Price, L., 1998. "Energy Efficiency Opportunities in Electric Arc Steelmaking," *Proceedings of the 56th Electric Furnace Conference*.

Price, L., Worrell, E., Levine, M.D., and Khrushch, M., 1998. "Sectoral Trends and Driving Forces of Global Energy Use and Greenhouse Gas Emissions: Focus on Industry and Buildings," *Proceedings of the Air & Waste Management Association's Second International Conference: Global Climate Change: Science, Policy, and Mitigation/Adaptation Strategies.*

Worrell, E., Price, L., Martin, N., Farla, J., Schaeffer, R., 1997. "Energy Intensity in the Iron and Steel Industry: A Comparison of Physical and Economic Indicators," *Energy Policy*, 25 (7-9).

Schipper, L., Scholl, L., and Price, L., 1997. "Energy Use and Carbon Emissions from Freight in 10 Industrialized Countries: An Analysis of Trends from 1973 to 1992," *Transportation Research* 2(1): 57-76, 1997.

Interlaboratory Working Group on Energy-Efficient and Low-Carbon Technologies, 1997. *Scenarios of U.S. Carbon Reductions: Potential Impacts of Energy Technologies by 2010 and Beyond.* Oak Ridge, TN: Oak Ridge National Laboratory and Berkeley, CA: Lawrence Berkeley National Laboratory.

Rosenfeld, A.H. and Price, L., 1997. *Recent Improvements in New Product Energy Efficiency*, In *Plasma Science and the Environment*, Wallace Manheimer, Tom Stix, and Linda Sugiyama, eds. Woodbury, NY: American Institute of Physics Press.

Worrell, E., Price, L., Martin, N., Farla, J., and Schaeffer, R., 1997. "International Energy Efficiency Comparisons and Policy Implications in the Iron and Steel Industry," *Proceedings of the European Council for an Energy-Efficient Economy Summer Study*.

Price, L., Worrell, E., Martin, N., Farla, J., and Schaeffer, R., 1997. "Energy Efficiency in the United States Iron and Steel Industry: An International Perspective," *Proceedings of the American Council for an Energy-Efficient Economy Summer Study on Energy Efficiency in Industry*.

Price, L., 1997. "Industrial Energy End-Use Demand Analysis," *Proceedings of the Asia Pacific Research Centre Workshop on Methodologies and Data for Energy Demand/Supply Outlook*, 17-19 March, 1997.

Levine, M.D., Price, L., and Sinton., J., 1997. "Reducing Growth in Global Energy Use and Greenhouse Gas Emissions: A Regional and Sectoral Analysis of Energy Efficiency Opportunities," *Proceedings of the World Energy Council Asia-Pacific Forum*, 22-24 April, 1997.

Levine, M.D. and Price, L., 1997. "The Role of Energy Efficiency in Reducing Growth in Global Energy Use and Greenhouse Gas Emissions: A Regional and Sectoral Analysis," *Proceedings of the ABARE Outlook '97 Conference*, 4-6 February, 1997.

Schipper, L. J., Scholl, L. and Price, L., 1997. Energy Use and Carbon Emissions from Freight in Ten Industrialized Countries: An Analysis of Trends from 1973 to 1992, Berkeley, CA: Lawrence Berkeley National Laboratory (LBNL-38826).

"Efficient Use of Energy and Materials: Progress and Policies, A Report of the Secretary-General of the United Nations" *Natural Resources Forum*, 20(3): 227-239, 1996, based on Worrell, E., Levine, M.D., Price, L., Martin, N., van den Broek, R., and Blok, K., 1996. *Potentials and Policy Implications of Energy and Material Efficiency Improvement: A Report to the United Nations Division for Sustainable Development.*

Levine, M.D., Price, L., and Martin, N., 1996. "Mitigation Options for Carbon Dioxide Emissions from Buildings: A Global Analysis," *Energy Policy* 24(10): 937-949.

Acosta-Moreno, R., Baron, R., Bohm, P., Chandler, W., Cole, V., Davidson, O., Dutt, G., Haites, E., Ishitani, H., Kruger, D., Levine, M.D., Zhong, L., Michaelis, L., Moomaw, W., Moreira, J.R., Mosier, A., Moss, R., Nakicenovic, N., Price, L., Ravindranath, N., Rogner, H.H., Sathaye, J., Shukla, P., and Williams, T., 1996. *Technologies, Policies, and Measures for Mitigating Climate Change*, Washington, DC: IPCC Working Group II.

Levine, M.D., Akbari, H., Busch, J., Dutt, G., Hogan, K., Komor, P., Meyers, S., Tsuchiya, H., Henderson, G., Price, L., Smith, K.R., and Siwie, L., 1996. *Mitigation Options for Human Settlements*, In: *Climate Change* 1995: *The IPCC Second Assessment Report, Volume* 2: *Scientific-Technical Analyses of Impacts, Adaptations, and Mitigation of Climate Change* [Watson, R.T., M.C. Zinyowera, and R.H. Moss (eds.)]. Cambridge and New York: Cambridge University Press.

Worrell, E., Levine, M.D., Price, L., Martin, N., van den Broek, R., and Blok, K., 1996. *Potentials and Policy Implications of Energy and Material Efficiency Improvement: A Report to the United Nations Division for Sustainable Development.* Utrecht, The Netherlands: Department of Science, Technology & Society, Utrecht University.

Rosenfeld, A.H. and Price, L., 1996. *Buildings and Climate Control*. Chapter in: *Encyclopedia of Climate and Weather*, Stephen H. Schneider, ed. NY: Simon and Schuster, 1996.

Levine, M.D., Price, L., Martin, N., and Worrell, E., 1996. "Energy and Energy Efficiency in Buildings: A Global Analysis," *Proceedings of the 1996 ACEEE Summer Study on Energy Efficiency in Buildings*, Washington, DC: American Council for an Energy-Efficient Economy.

Wiel, S., Martin, N., Levine, M.D., Price, L., Sathaye, J., Schipper, L., 1996. "The Role of Buildings Energy Efficiency in Managing Atmospheric Carbon Dioxide," *Proceedings of the 1996 ACEEE Summer Study on Energy Efficiency in Buildings*, Washington, DC: American Council for an Energy-Efficient Economy.

Price, L., Martin, N., Levine, M.D., and Worrell, E., 1996. "Industrial Energy Demand and Energy Efficiency in Developing Countries," *Proceedings of the 8th National Industrial Energy Technology Conference* in Houston, TX, April 1996.

Worrell, E., Levine, M.D., Price, L., Martin, N., 1996. "Potentials and Policies to Improve the Efficiency of Energy Consumption," Proceedings of the Europhysics Study Conference: Economy-Energy-Entropy, 1996.

Levine, M.D., Martin, N., Price, L., and Worrell, E., 1995. *Energy Efficiency Improvement Utilizing High Technology: An Assessment of Energy Use in Industry and Buildings*, London: World Energy Council.

Levine, M.D., Geller, H., Koomey, J., Nadel, S., and Price, L., 1995. "Electricity End-Use Efficiency: Experience with Technologies, Markets, and Policies Throughout the World," *Energy: The International Journal* 20(1): 37-61.

Schipper, L. and Price, L., 1994. "Efficient Energy Use and Well Being: The Swedish Example After 20 Years," *Natural Resources Forum* 18(2): 125-142.

Hanford, J.W., Koomey, J.G., Stewart, L.E., Lecar, M.E., Brown, R.E., Johnson, F.X., Hwang, R.J., and Price, L., 1994. *Baseline Data for the Residential Sector and Development of a Residential Forecasting Database*, Berkeley, CA: Lawrence Berkeley National Laboratory (LBL-33717).

Koomey, J.G., Johnson, F.X., Schuman, J., Franconi, E., Greenberg, S., Lutz, J.D., Griffith, B.T., Arasteh, D., Atkinson, C., Heinemeier, K., Huang, Y.J., Price, L., Rosenquist, G., Rubinstein, F.M., Selkowitz, S., Taha, H. and Turiel, I., 1994. *Buildings Sector Demand-Side Efficiency Technology Summaries*, Berkeley, CA: Lawrence Berkeley National Laboratory, 1994.

Schipper, L., Figueroa, M.J., Price, L., and Espey, M., 1993. "Mind the Gap: The Vicious Circle of Measuring Automobile Fuel Use," *Energy Policy*, 21(12): 1173-1190.

Schipper, L., Howarth, R., Andersson, B., and Price, L., 1993. "Energy Use in Denmark: An International Perspective," *Natural Resources Forum* 17(2): 83-103.

Rosenfeld, A., Atkinson, C., Koomey, J., Meier, A., Mowris, R., and Price, L., 1993. "Conserved Energy Supply Curves," *Contemporary Policy Issues* 11(1): 45-98.

Rosenfeld, A. and Price, L., 1993. "Energy-Efficient Technologies and Policies Can Help Us Win the Race to Save the Planet," *Proceedings of the Innovative Housing* '93 *Conference*, June 1993. Schipper, L.J., Johnson, F., Howarth, R., Andersson, B., Andersson, B., and Price. L., 1993. *Energy Use in Sweden: An International Perspective*, Berkeley, CA: Lawrence Berkeley National Laboratory (LBL-33819).

Schipper, L. J., Howarth, R., Andersson, B., and Price, L., 1993. *Energy Use in Denmark: An International Perspective*, Berkeley, CA: Lawrence Berkeley National Laboratory (LBL-32362).

Schipper, L., Figueroa, M.J., Price, L., and Espey, M., 1993. *Mind the Gap: The Vicious Circle of Measuring Automobile Fuel Use.* Berkeley, CA: Lawrence Berkeley National Laboratory (LBL-33140).

Rosenfeld, A., Atkinson, C., Koomey, J., Meier, A., Mowris, R., and Price, L., 1993. *A Compilation of Supply Curves of Conserved Energy for U.S. Buildings*. Berkeley, CA: Lawrence Berkeley National Laboratory (LBL-31700).

Levine, M.D., Geller, H., Koomey, J., Nadel, S., and Price, L., 1992. *Electricity End-Use Efficiency: Experience with Technologies, Markets, and Policies Throughout the World,* Washington, DC: American Council for an Energy-Efficient Economy.

Rosenfeld, A., and Price, L., 1992. "Incentives for Efficient Use of Energy: High Prices Worked Wonders from 1973 through 1985, What Are Today's Alternatives to High Prices?" Presented at the *POWER (Program on Workable Energy Regulation) Conference: The Economics of Energy Conservation*, University of California, Berkeley, June 1992.

Rosenfeld, A., and Price, L., 1992. "Making the World's Buildings More Energy-Efficient," Proceedings of the Oak Ridge National Laboratory Conference on Technologies for a Greenhouse-Constrained Society Conference, 1992.

Levine, M.D., Geller, H., Koomey, J., Nadel, S., and Price, L., 1992. *Electricity End-Use Efficiency: Experience with Technologies, Markets, and Policies Throughout the World, Berkeley, CA: Lawrence Berkeley National Laboratory (LBL-31885).*

Atkinson, B.A., McMahon, J.E., Mills, E., Chan, P., Chan, T.W., Eto, J.H., Jennings, J.D., Price, L., Rubenstein, F., Sezgen, O., and Wenzel, T., 1992. *Analysis of Federal Policy Options for Improving U.S. Lighting Energy Efficiency: Commercial and Residential Buildings*, Berkeley, CA: Lawrence Berkeley Laboratory (LBL-31469).

Atkinson, B., Ciliano, R., Flynn, E., Friedman, K., Hopkins, M., Mills, J., Price, L., Rosenfeld, A., Shaw, H., Wilson, J., and Wood, R., 1992. *Energy Demand Reduction,* In *The Engineering Response to Global Climate Change: Forming A Research and Development Agenda*, New Orleans, LA: National Institute for Global Climate Change and the Engineering Foundation.

Rosenfeld, A.H. and Price, L., 1991. *Options for Reducing Carbon Dioxide Emissions*. In *Global Warming: Physics and Facts*, New York: American Institute of Physics Conference Series.

Gadgil, A., Rosenfeld, A., and Price, L., 1991. "Making the Market Right For Environmentally Sound Energy Technologies: U.S. Successes That Might Work in Developing Countries and Eastern Europe," *Proceedings of ESETT* '91: *International Symposium on Environmentally Sound Energy Technologies and their Transfer to Developing Countries and European Economies in Transition*, October 21-25, 1991 (also LBL-31701).